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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/730,013

12/09/2003

Kuniaki Yoshikata

031312

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05/18/2007

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EXAMINER

DOVE, TRACY MAE

ART UNIT

PAPER NUMBER

1745

MAIL DATE

DELIVERY MODE

05/18/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/730,013

Applicant(s)

YOSHIKATA ET AL.

Examiner

Tracy Dove

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

This Office Action is in response to the communication filed on 3/2/07. Applicant's arguments have been considered, but are not persuasive. Claims 1-11 are pending. This Action is made FINAL, as necessitated by amendment.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 1 and 7 recite edges of the electrolyte and the electrodes are in contact, which does not appear to be supported by the specification as filed. Examiner requests Applicant point out the section of the specification that supports this limitation.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites "the edges of the electrolyte and the electrodes are in contact", which is indefinite because it is unclear if the edges of the electrolyte must contact the electrodes

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anywhere or if the edges of the electrolyte must contact the edges of the electrodes.

Furthermore, “the edges” and “the electrodes” lack proper antecedent basis. See also claim 7.

Claim 7 recites “the side edges of the electrolyte and the other of the fuel electrode and the air electrode are in contact”, which is indefinite. It is unclear how side edges of the electrolyte contact a single electrode.

Claim 11 recites “one of the fuel and air electrodes”, which is improper group language. Examiner suggests “and one of the fuel electrode or the air electrode”. The claim also recites “the other electrode is not in contact with the electrode disposed on the electrolyte”, which is confusing. The claim should be amended to clearly recite the invention and have proper antecedent basis for all claim limitations.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 5, 7-9 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujii et al., WO 02/080299 and/or under 35 U.S.C. 102(e) as being anticipated by Fujii et al., US 7,081,317.

Note WO 02/080299 was published in Japanese, thus, English language US 7,081,317 will be used to discuss the teachings of Fujii.

Fujii teaches a thin film fuel cell having a substrate 11, an electrolyte 13, a fuel electrode 12, an air electrode 14 and an interconnect 15 (Figure 1). Note mask layer 17 is removed to produce the finished fuel cell. The thickness of the electrolyte 13 is 0.5 to 5  $\mu\text{m}$  (5:54-55). As shown in at least Figure 1 the electrolyte 13, fuel electrode 12 and air electrode 14 each contact a first surface of the substrate 11 with the electrolyte located between the fuel electrode 12 and the air electrode 14. Figure 4 shows a second thin film fuel cell formed on a second surface of a substrate. Figure 1 also shows the thickness of the electrolyte between the air electrode and the fuel electrode is thickness than the fuel electrode. Fuji teaches a first side edge of the electrolyte contacts the cathode and a second side edge of the electrolyte contacts the anode (see Figure 1).

Thus the claims are anticipated.

\*

Claim 10 is rejected under 35 U.S.C. 102(b)/103(a) as being anticipated by, or alternatively unpatentable over, Fujii et al., WO 02/080299 and/or under 35 U.S.C. 102(e)/103(a) as being anticipated by, or alternatively unpatentable over, Fujii et al., US 7,081,317.

Note WO 02/080299 was published in Japanese, thus, English language US 7,081,317 will be used to discuss the teachings of Fujii.

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Fujii teaches a thin film fuel cell having a substrate 11, an electrolyte 13, a fuel electrode 12, an air electrode 14 and an interconnect 15 (Figure 1). Note mask layer 17 is removed to produce the finished fuel cell. The thickness of the electrolyte 13 is 0.5 to 5  $\mu\text{m}$  (5:54-55). As shown in at least Figure 1 the electrolyte 13, fuel electrode 12 and air electrode 14 each contact a first surface of the substrate 11 with the electrolyte located between the fuel electrode 12 and the air electrode 14. Figure 4 shows a second thin film fuel cell formed on a second surface of a substrate. Figure 1 also shows the thickness of the electrolyte between the air electrode and the fuel electrode is thickness than the fuel electrode. Fujii teaches a first side edge of the electrolyte contacts the cathode and a second side edge of the electrolyte contacts the anode (see Figure 1).

Thus the claim is anticipated. The claim is alternatively unpatentable because the courts have ruled that product-by-process limitations, in the absence of unexpected results, are obvious. See MPEP 2113.

\*

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujii et al., WO 02/080299 and/or Fujii et al., US 7,081,317.

Note WO 02/080299 was published in Japanese, thus, English language US 7,081,317 will be used to discuss the teachings of Fujii.

Fujii teaches a thin film fuel cell having a substrate 11, an electrolyte 13, a fuel electrode 12, an air electrode 14 and an interconnect 15 (Figure 1). Note mask layer 17 is removed to produce the finished fuel cell. The thickness of the electrolyte 13 is 0.5 to 5  $\mu\text{m}$  (5:54-55). As shown in at least Figure 1 the electrolyte 13, fuel electrode 12 and air electrode 14 each contact a first surface of the substrate 11 with the electrolyte located between the fuel electrode 12 and the

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air electrode 14. Figure 4 shows a second thin film fuel cell formed on a second surface of a substrate. Figure 1 also shows the thickness of the electrolyte between the air electrode and the fuel electrode is thickness than the fuel electrode. Fujii teaches a first side edge of the electrolyte contacts the cathode and a second side edge of the electrolyte contacts the anode (see Figure 1).

Fujii does not explicitly teach the claimed electrolyte thickness.

However, the courts have held that where the only difference between the prior art and the claimed invention was a recitation of relative dimensions (thickness) of the claimed device (membrane) and a device having the claimed relative dimensions would not perform differently than the prior art device (membrane), the claimed device was not patentably distinct from the prior art device. See MPEP 2144.04.

### ***Response to Arguments***

Applicant's arguments filed 3/2/07 have been fully considered but they are not persuasive.

Regarding Fuji '317, Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Regarding Fuji '299, Applicant argues the claims are directed toward a solid oxide fuel cell and Fuji '299 relates to a polymer electrolyte fuel cell. In response to applicant's arguments, the recitation "solid oxide fuel cell" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or

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structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Applicant argues the claims have been amended to recite “the side edges of the electrolyte and the electrode are in contact”. However, claim 1 has not been amended to recite this limitation. The claim requires “the edges” not “the side edges”. Furthermore, Fuji ‘299 clearly shows an edge of the electrolyte contacts the cathode and an edge of the electrolyte contacts the anode. Therefore, Fuji teaches “the edges of the electrolyte and the electrodes are in contact”. Furthermore, Fuji teaches a first side edge of the electrolyte contacts the cathode and a second side edge of the electrolyte contacts the anode (see Figure 1). Note the claims do not exclude an opening in the substrate.

#### ***Allowable Subject Matter***

Claims 2 and 3 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The claims require the height of the fuel electrode to be greater than the height of the electrolyte and the height of the air electrode to be greater than the electrode (as measured from a first surface of the substrate). Fujii does not teach or suggest this limitation.

#### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO



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MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracy Dove whose telephone number is 571-272-1285. The examiner can normally be reached on Monday-Thursday (9:00-7:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

May 16, 2007

  
TRACY DOVE  
PRIMARY EXAMINER